

What is claimed is:

1. A purified and isolated DNA molecule having a nucleotide sequence comprising a DNA sequence selected from the group consisting of SEQ ID NO 1, SEQ ID NO 2, and SEQ ID NO 3.
2. A DNA molecule coding for an amino acid sequence comprising SEQ ID NO 4, SEQ ID NO 5 or SEQ ID NO 6.
3. A purified and isolated DNA molecule which is at least 80% homologous to SEQ ID NO 1, SEQ ID NO 2, or SEQ ID NO 3.
4. The DNA of claim 3 further characterized by encoding a protein with the biological activity of BMOG.
5. A vector comprising a DNA molecule of claim 1.
6. A prokaryotic or eukaryotic host cell stably transformed or transfected by a vector comprising a DNA molecule of claim 1.
7. A process for the production of a polypeptide having part or all of the structural conformation and the biological activity of BMOG comprising growing, under suitable culture conditions, said host cells transformed or transfected with a DNA molecule of claim 1 in a manner allowing expression of such polypeptide product, and recovering said product.
8. A polypeptide having an amino acid sequence which comprises BMOG.
9. A polypeptide according to claim 8 said amino acid sequence comprising SEQ ID NO 4, SEQ ID NO 5, or SEQ ID NO 6, or a variant thereof.
10. The polypeptide of claim 8 wherein said polypeptide is soluble.

11. An IgG fusion protein comprising BMOG or a fragment thereof.
12. An antibody to a polypeptide of claim 8, 9, 10 or 11.
13. A hybridoma cell line which produces an antibody specific to BMOG.
14. A method for modulating the immune system of a subject comprising administering to the subject a therapeutically effective amount of a BMOG polypeptide or a fragment thereof.
15. The method of claim 14 wherein said polypeptide is soluble.
16. The method of claim 14 wherein said polypeptide is a fusion protein.
17. The method of claim 14 wherein the subject is human.
18. A method of inhibiting signal transduction involving a cell expressing BMOG comprising contacting said cell with a soluble BMOG protein.
19. A method for targeting a toxin, imageable compound or radionuclide to a cell expressing BMOG comprising contacting the cell with a BMOG protein, fragment, or fusion protein thereof.
20. A method of gene therapy comprising the step of administering a gene for BMOG to a subject.